# (19) World Intellectual Property Organization International Bureau





### (43) International Publication Date 14 July 2005 (14.07.2005)

#### PCT

## (10) International Publication Number WO 2005/063831 A2

(51) International Patent Classification<sup>7</sup>: 4/64

C08F 110/00,

(21) International Application Number:

PCT/EP2004/014582

(22) International Filing Date:

22 December 2004 (22.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

03029734.5 60/541,667 23 December 2003 (23.12.2003) EP 3 February 2004 (03.02.2004) US

(71) Applicant (for all designated States except US): BASELL POLYOLEFINE GMBH [DE/DE]; Brühler Str. 60, 50389 Wesseling (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SEIDEL, Naka [HR/DE]; Ketteler Str.17, 64807 Dieburg (DE). RICHTER, Bodo [DE/DE]; Chenover Str. 2, 67117 Limburgerhof (DE). KRATZER, Roland [DE/DE]; Südhang 3, 65719 Hofheim (DE). (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

. .

(54) Title: PREPARATION OF SUPPORTED COCATALYSTS

(57) Abstract: The present invention relates to a process for preparing a supported cocatalyst for olefin polymerization, which comprises reacting: A) a support bearing functional groups; B) triethylaluminum and C) a compound of the formula (I)  $(R^1)_x$ —A—(OH)<sub>y</sub>, where A is an atom of group 13 or 15 of the Periodic Table, R¹ are identical or different and are each, independently of one another, hydrogen, halogen, C<sub>1</sub>-C<sub>2</sub>0-alkyl, C1-C<sub>2</sub>0-haloalkyl, C1-C<sub>10</sub>-alkoxy, C<sub>6</sub>-C<sub>20</sub>-aryl, C<sub>6</sub>-C<sub>20</sub>-haloaryl, C<sub>6</sub>-C<sub>20</sub>-aryloxy, C7-C<sub>4</sub>0-arylalky, C7-C40-haloarylalkyl, C7-C40-haloalkylaryl or an OSiR<sub>3</sub>² group, where R² are identical or different and are each hydrogen, halogen, C<sub>1</sub>-C<sub>2</sub>0-alkyl, C<sub>1</sub>-C<sub>2</sub>0-haloalkylaryl or an OSiR<sub>3</sub>² group, where R² are identical or different and are each hydrogen, halogen, C<sub>1</sub>-C<sub>2</sub>0-alkyl, C<sub>1</sub>-C<sub>2</sub>0-haloalkyl, C<sub>1</sub>-C<sub>10</sub>-alkoxy, C<sub>6</sub>-C<sub>20</sub>-aryl, C<sub>6</sub>-C<sub>20</sub>-aryloxy, C<sub>7</sub>-C<sub>40</sub>-arylalkyl, C<sub>7</sub>-C<sub>40</sub>-haloarylalkyl, C7-C<sub>40</sub>-haloalkylaryl or C<sub>7</sub>-C<sub>40</sub>-haloalkylaryl, y is 1 or 2 and x is 3 minus y. In addition, the invention relates to supported cocatalysts obtainable by such a process, to the use of the supported cocatalysts for preparing a catalyst system for the polymerization of olefins, to catalyst systems for the polymerization of olefins in which these catalyst solids are used.